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EXAMINER
DISTEFANO, GREGORY A

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

   A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _11 April 2006_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-20_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _11 April 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _4/11/2006_.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the application filed on 4/11/2006.

2.   Claims 1-20 have been submitted for examination.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claims 1-7 and 11-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to "a user interface description generating apparatus" which may be interpreted to be purely software per se where the subsequent limitations are simply components of that software. Software per se fails to meet the 35 U.S.C. 101 requirement that the invention be a "process, machine, manufacture, or composition of matter". The examiner suggests amending the subject claims to be placed on a <u>tangible</u> computer readable medium in order to alleviate this issue.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 2, 4-6, 8-10, 13, 14, 16, and 18-20 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Tomm (US 6,246,403) in view of Tran (US 6,054,990).

7.   As per claims 1, 13, and 20, Tomm teaches the following:

the sketch being representative of a graphic user interface (GUI) to be created,

(column 1, lines 41-43), i.e. <u>drawing programs</u> are currently available on the market

which enable a person to <u>create a GUI by drawing</u> the desired GUI;

a hierarchy determiner for determining, from the conformed versions, a hierarchy

of relative containment among said conformed versions, (column 7, lines 9-11), i.e.

once the list of boxes has been generated, the collection of boxes <u>is organized into a</u>

<u>data tree structure,</u> as indicated by block 70; and

a description generator for generating, from said hierarchy, a user interface

description for creating the GUI, (abstract), once the data tree structure has been

created, a GUI generating software program can <u>use the data tree structure to generate</u>

<u>the GUI.</u>

However, Tomm does not explicitly teach the inner workings of using a sketch

recognition method for input. Tran teaches the following:

a sketch identifier for examining a manual sketch of objects to identify

sketched versions of the objects, (abstract), i.e. an object classification and recognition

capability is provided to allow the present invention to <u>recognize objects being sketched</u>

by the user;

a sketch normalizer for conforming the identified sketched versions to resemble respective reference images, (abstract), i.e. an object classification and recognition capability is provided to allow the present invention to recognize objects being sketched by the user and <u>convert the hand sketches</u> into computer aided design like drawings;

It would have been obvious to one of ordinary skill in the art to have modified Tomm's GUI design method with the sketch recognition method of Tran. One of ordinary skill in the art would have been motivated to have made such modifications because Tomm directly teaches in their background of invention in column 1, lines 41-57, that at the time it was well known in the art that their existed GUI creating programs which accepted user input through a drawing program. Furthermore, as Tomm teaches in their abstract, their text file which they use to generate a GUI comprises a "two-dimensional pictorial representation". As was well known in the art, CAD drawings, of which Tran is directed towards, may be represented as a two-dimensional pictorial representation. Still further, as Tomm teaches in their abstract, their method generates a GUI from a text file. Tran teaches in column 7, line 66 – column 8, line 1, that as "drawn" data is sent to their handwriting recognizer, the written instructions are converted into text data.

8.   Regarding claim 2, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

said reference images comprise vector images, (column 14, lines 21-23), i.e. from step 153 to 155, the routine next determines whether <u>the drawing is to be saved as</u>

a hand-drawn bitmap sketch or as <u>a converted series of vectors</u> and/or predefined

objects in step 156.

9.   Regarding claim 4, modified Tomm teaches the method of claim 1 as described

above. Tran further teaches the following:

the manual sketch includes characters, and wherein the sketch identifier is

configured for applying optical character recognition (OCR), (column 8, lines 5-7), i.e.

with <u>suitable recognition software, text and numeric</u> information can be entered into the

pen-based computer system in a similar fashion.

10.   Regarding claim 5, modified Tomm teaches the method of claim 1 as described

above. Tomm further teaches the following:

said description generator is further configured for generating the user interface

description to contain a layout of said conformed versions, (abstract), i.e. the GUI

constructing program scans the text file and determines <u>the x and y coordinates of the</u>

<u>corners of all of the boxes</u> and the data type associated with each box.

11.   Regarding claim 6, modified Tomm teaches the method of claim 1 as described

above. Tomm further teaches the following:

the description generator is configured to generate the user interface description

into a format specific to a target platform for the GUI, (column 3, lines 37-43), i.e. it

should also be noted that the GUI constructing program of the present invention <u>is suitable for use with different types of windowing systems</u>.

12.   Regarding claim 8, modified Tomm teaches the method of claim 1 as described above. Tran further teaches the following:

an electronic storage medium, (column 6, lines 57-59), i.e. the processor 20 is also connected to a <u>random access memory 22</u> for storing various run-time variables and data arrays;

a hand-held pen for creating the sketch, (column 7, lines 31-35), i.e. in one embodiment where the computer accepts handwritings as an input medium from the user, a combination <u>pen</u>/digitizer unit 25, and a display LCD panel 26 having a viewing screen exposed along one of the planar sides of the enclosure are provided; and

a digitizer for recording into the medium the sketch in real time as the sketch is being created, (column 7, lines 31-35), i.e. in one embodiment where the computer accepts handwritings as an input medium from the user, a combination pen/<u>digitizer</u> unit 25, and a display LCD panel 26 having a viewing screen exposed along one of the planar sides of the enclosure are provided.

13.   Regarding claim 9, modified Tomm teaches the method of claim 8 as described above. Tomm further teaches the following:

the apparatus stores in said medium a normalized sketch comprising the

conformed versions, (column 3, lines 64-66), i.e. once the text file has been created, the

text file is stored in a memory device which may be comprised by computer 4.

However, as described above, Tomm does not explicitly describe the inner

workings of a sketch recognition method for input. Tran further teaches the following:

said apparatus further comprising a sketch editor for editing said normalized

sketch stored in said medium, (column 11, lines 34-37), i.e. in Fig. 2, the menu 100

allows the user to control the sketching system. Preferably, the menu 100 is a pull-

down menu with a number of choices, including File, Edit, Object and View;

said digitizer being configured for augmenting, according to input from the pen,

said normalized sketch stored in said medium, (column 12, lines 32-36), i.e. referring

now to Fig. 3, the operation of the magnifier 108 of Fig. 2 is disclosed. Upon beginning

the process in step 120 of Fig. 2, the routine displays a magnifier icon whenever the pen

touches the LCD screen 26 of the computer system.

14.   Regarding claim 10, modified Tomm teaches the method of claim 1 as described

above. Tran further teaches the following:

an electronic storage medium for storing said reference images, (column 7, lines

2-3), i.e. the RAM 22 stores a database of the drawings of the present invention; and

wherein the sketch identifier is configured for using the stored reference images

in identifying said sketched versions, (column 13, lines 44-49), i.e. the routine of Fig. 5

will compare the sketches against a library containing definitions and symbols for

predetermined objects if the user does not specify in advance that her or she is writing

text, in such case the handwriting recognition engine is to be applied.

15.   Regarding claim 14, modified Tomm teaches the method of claim 13 as

described above. Tran further teaches the following:

        the sketching step further includes the step of sketching, as an annotation to at

least one of the objects, a label of a function of the object in said GUI, (column 4, lines

49-57), i.e. each box also has a name and a data type associated with it, which are text

strings that are used by the windowing system executing the GUI construction program

to create windows and other GUI components. The name is simply a word or a

combination of words that will be displayed in the GUI window associated with the box.

The data type informs the GUI constructing program of the manner in which the box

must be handled by the GUI constructing program.

16.   Regarding claim 16, modified Tomm teaches the method of claim 13 as

described above. Tran further teaches the following:

        at least one of the sketched versions of an object intersects another sketched

version of an object, (column 6, lines 1-4), i.e. this data tree structure contains the

relative dimensions and locations of the boxes that appear in the input text file, the

names and types of the boxes, and the enclosure relationships among the boxes; *and*

        wherein the sketching step further includes the step of sketching, as an

annotation to at least one of two mutually intersecting ones of the versions, a label of a

function of the respective object in said GUI, (column 4, lines 49-57), i.e. each box also

has a name and a data type associated with it, which are text strings that are used by

the windowing system executing the GUI construction program to create windows and

other GUI components. The name is simply a word or a combination of words that will

be displayed in the GUI window associated with the box. The data type informs the GUI

constructing program of the manner in which the box must be handled by the GUI

constructing program.

17.   Regarding claim 18, modified Tomm teaches the method of claim 13 as

described above. Tran further teaches the following:

        the sketching step further comprises the steps of:

        manipulating a pen by hand to create the sketch, (abstract), i.e. an object

classification and recognition capability is provided to allow the present invention to

recognize objects being sketched by the user; *and*

        recording into the medium the sketch in real time as the sketch is being created,

(column 7, lines 60-63), i.e. as the CPU 20 senses the position and movement of the

stylus, it generates a corresponding image on the screen to create the illusion that the

pen or stylus is drawing the image directly upon the screen.

18.   Regarding claim 19, modified Tomm teaches the method of claim 13 as

described above. Tran further teaches the following:

the step of pre-storing said reference images to aid in the identification performed in the examining step, (column 13, lines 44-49), i.e. the routine of Fig. 5 will compare the sketches against <u>a library containing definitions and symbols for predetermined objects</u> if the user does not specify in advance that her or she is writing text, in such case the handwriting recognition engine is to be applied.

19.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tomm as applied to claim 1 above, and further in view of Eller et al. (US 5,287,417), hereinafter Eller.

20.   Regarding claim 3, modified Tomm teaches the method of claim 1 as described above. However, neither Tomm nor Tran explicitly teaches refining the sketches. Eller teaches the following:

the sketch normalizer is configured for straightening lines and making lines mutually parallel, (column 3, lines 59-61), i.e. after the objects are recognized, they are displayed with <u>perfected angles and lines</u>.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the sketch recognition method of Tomm in view of Tran, with the refining method of Eller. One of ordinary skill in the art would have been motivated to have made such further modifications because Tomm directly teaches in their background of invention in column 1, lines 41-57, that at the time it was well known in the art that their existed GUI creating programs which accepted user input

through a drawing program. Furthermore, both Tran and Eller are analogous art in the field of interpreting hand drawn input.

21.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tomm as applied to claim 1 above, and further in view of Carroll (US 2002/0085020).

22.   Regarding claim 7, modified Tomm teaches the method of claim 1 as described above. However, neither Tomm nor Tran explicitly teaches the description is written in a structured mark-up language. Carroll teaches the following:

    the description generator is configured for generating the description into a hierarchical, structured mark-up language, (abstract), i.e. an applications graphical user interface is specified <u>using an XML document as an application interface file</u>. At application compile time this application interface file is parsed, and the specifications therein used to retrieve graphical screen components from an interface library to create the user interface.

    It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the user interface document generation method of Tomm with the XML user interface document of Carroll. One of ordinary skill in the art would have been motivated to have made such modifications because both Tomm and Carroll are analogous art in the field of generating user interfaces from document files.

23.   Claims 11, 12, 15 and 17 is rejected under 35 U.S.C. 103(a) as being

unpatentable over modified Tomm as applied to claims 1, 13 and 16 above, and further

in view of Alexander (US 6,118,451).

24.   Regarding claims 11 and 15, modified Tomm teaches the method of claims 1 and

13 as described above.

the description generator is configured to generate the user interface description

to reflect a stacking order based on an annotation to a sketched version of an object in

said sketch, (column 4, line 67 - column 5, lines 5), i.e. the boxes 23 and 25 are dialog

boxes containing GUI components commonly referred to as push buttons. The

indication "button" on the top edges of the boxes 23 and 25 corresponds to the data

type of the boxes and indicates to the GUI constructing program that the box data type

is push button.

However, Tomm does not explicitly teach a method of the annotation to the

sketched version being an indication of a priority:

said annotation indicating a priority for the annotated object with respect to at

least one other of the objects as to which of two objects has priority to overlay the other

of the two in said GUI, (column 24, lines 53-57), i.e. the Z order list data structure 612

contains an identification 722 of all dialogs currently being managed by the dialog

manager 402. Associated with each is a Z number 724 identifying the position in the

visual sequence on the display screen.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have modified the indications of Tomm to further include the "Z

number" value of Alexander. It would have been obvious to one of ordinary skill in the

art to have made such modifications because Tomm directly teaches that the x and y

coordinates of each box are stored in a list in memory in column 6, lines 41-45, and

Alexander teaches of a similar list of storing the z value of each box in column 24, lines

53-58. Alexander also teaches in column 24, lines 45-48, that "the Z axis is normal to

the two-dimensional display screen. The Z order identifies the order of the displayed

dialog boxes as they are layered on the display screen". Tomm shows of a desire for

layering their boxes as may be seen in their teaching of column 6, lines 1-4, which

teaches that their data tree contains "enclosure relationships", which is clear to one of

ordinary skill in the art to be a form of overlay. This interpretation is further reinforced in

Tomm's showing of Fig. 2B, where Tomm shows three different boxes (22, 23, and 25)

"overlaying" a larger box (21). Still further, Tomm and Alexander are analogous art in

the field of dialogue boxes.

25.   Regarding claim 12, modified Tomm teaches the method of claim 11 as

described above. Tomm further teaches the following:

        said apparatus being further configured to recognize that said annotation

indicates priority based on a dividing line within said sketched version of an object,

(column 4, lines 43-45), i.e. it will be assumed herein that if a point lies on the top or

right edges 17 and 19 of the box 10, the box 10 encloses the point, (column 4, line 67 -

column 5, lines 5), i.e. the boxes 23 and 25 are dialog boxes containing GUI

components commonly referred to as push buttons. The indication "button" on the top

edges of the boxes 23 and 25 corresponds to the data type of the boxes and indicates

to the GUI constructing program that the box data type is push button.

The examiner interprets Tomm's teaching of a top edge line which visually

defines a box to encompass applicant's limitation of a "dividing line".

26.   Regarding claim 17, modified Tomm teaches the method of claim 16 as

described above. Tomm teaches the following:

the hierarchy determining step relatively positions in said hierarchy respective

objects of said two mutually intersecting ones, (column 6, lines 1-4), i.e. this data tree

structure contains the relative dimensions and locations of the boxes that appear in the

input text file, the names and types of the boxes, and the enclosure relationships among

boxes.

As was well known in the art at the time, in a data tree structure, child nodes are

connected to their parents, making them relatively positions in the hierarchy.

However, Tomm does not explicitly teach a method of relatively positioning

boxes in the hierarchy based on an annotation. Alexander teaches the following:

based on an annotation created in the annotation sketching step, (column 24,

lines 53-57), i.e. the Z order list data structure 612 contains an identification 722 of all

dialogs currently being managed by the dialog manager 402. Associated with each is a

Z number 724 identifying the position in the visual sequence on the display screen.

As described above in the rejections of claims 11 and 15 above, it would have been obvious to one of ordinary skill in the art to have modified the indication of Tomm to further include the Z value of Alexander. As Tomm's method already bases their hierarchical tree on "enclosure relations", e.g. overlays, it would have been obvious to one of ordinary skill in the art to have used the Z values of modified Tomm to position boxes in their hierarchical tree.

Conclusion

27.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

-Bourgeois et al. (US 5,060,170), space allocation and positioning method for screen display regions in a variable windowing system.

-Watanabe et al. (US 5,068,804), document input method and apparatus.

-Geary et al. (US 5,206,950), software development system and method using expanding outline interface.

-Hoffman et al. (US 5,347,627), graphical user interface including dynamic sizing and spacing.

-Joseph (US 5,721,848), method and apparatus for building efficient and flexible geometry management widget classes.

-Ulrich (US 5,917,487), data-driven method and system for drawing user interface objects.

-Okada (US 5,956,029), user interface conversion method and apparatus.

-Cain et al. (US 6,014,138), development system with methods for improved visual programming with hierarchical object explorer.

-Bolnick et al. (US 6,043,817), method and apparatus for arranging displayed graphical representations on a computer interface.

-Scarborough et al. (US 6,353,448), graphic user interface display method.

-Craycroft et al. (US 6,731,310), switching between appearance/behavior themes in graphical user interfaces.

-Audleman et al. (US 6,806,890), generating a graphical user interface from a command syntax for managing multiple computer systems as one computer system.

-Silverbrook et al. (US 7,134,601), method of generating a user interface for a computer system.

-Silverbrook et al. (US 7,322,524), graphic design software using an interface surface.

-Yen et al. (US 2002/0035595), method and system for generating user interfaces.

-Blume (US 2004/0056900), system and method for window priority rendering.

-Tobita et al. (US 2005/0062740), user interface method and apparatus, and computer program.

-Horiguchi (JP 2005100308 A), efficient multiwindow GUI drawing algorithm to be driven at high speed even in small resource environment.

28.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY A. DISTEFANO whose telephone number is (571)270-1644. The examiner can normally be reached on 7:30am-5:00pm Mon.-Thurs.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on (571)272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GAD
3/15/2008

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